APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,627	12/13/2000	Jon D. Clauson	07844-447001	8023

21876   7590   07/01/2003

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ART UNIT	PAPER NUMBER
2671	

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *21 April 2003* .

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-6, 8-13 and 15* is/are rejected.

7) ☒ Claim(s) *7 and 14* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *13 December 2002* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   Claims 1, 3, 5, 6, 8-10,12, 13,15 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 5,611,027 to Edgar in light of the admitted prior art.

a.   Referring to claim 1, Edgar discloses an electronic source image containing a

plurality of colors not all of which can be painted in the output image (column 6, lines

29-43) and receiving a dithering mask corresponding to the source image, wherein the

dithering mask contains a plurality dithering levels specifying the degree to which colors

in the corresponding regions of the source image can be variably dithered to paint the

output image (column 6, line 44 – column 7, line 10) and generating the output image

from the source image by variable dithering the colors of the output image on a regional

basis according to the dithering levels specified in the received dithering mask (column 7,

lines 35-50). Edgar does not explicitly disclose receiving the source image. The

Applicant discloses that it well known and common to transmit and receive electronic

images (Applicant, page 1). It would have been obvious at the time of the invention to

modify the method of Edgar by receiving the source image as taught by the admitted

prior art. The suggestion/motivation for doing so would have been to allow processing of

images initially residing on computers with access to a distributed network, such as the

Internet.

b.   Claim 3 is rejected per claim 1. Referring to claim 3, Edgar discloses the dithering

mask specifies regional dithering levels on a per pixel basis (column 6, lines 53-59)

c.   Referring to claim 5, Edgar disclose dithering the colors in the image utilizing an error diffusion algorithm and finding a paint color in the limited palette, wherein the paint color is the color in the limited color palette closest to the target color and painting the pixel with the paint color (column 5, lines 47-56). As noted by the Applicant, the error diffusion method operates by painting each pixel in the output image with a paint color available in that image's color palette that is nearest to a target color. The target color is the sum of the true color of a corresponding pixel in the source image and a diffusive color error obtained from one or more previous pixels in the converted output image, where the diffusive color error is a measure of the difference between the paint and target colors in previous pixels in the converted output image (Applicant, page 1). Edgar also discloses receiving a dithering level from a corresponding pixel in a dithering mask associated with the source image, wherein the dithering level specifies the amount of the output pixel's color error to diffuse to neighboring pixels and calculating a color error to diffuse to neighboring pixels in the output image from the target color, the paint color and the dithering level (column 6, line 53 – column 7, line 10).

d.   Claim 6 is rejected per claim 5. Referring to claim 6, as noted in the rejection of claim 5, Edgar disclose dithering the colors in the image utilizing an error diffusion algorithm (column 5, lines 47-56) and as noted by the Applicant the diffusive color error is a measure of the difference between the paint and target colors in previous pixels in the converted output image (Applicant, page 1).

e.   Claim 8 is rejected per claim 5. Referring to claim 8, Edgar disclose dithering the colors in the image utilizing an error diffusion algorithm (column 5, lines 47-56) and as

noted by the Applicant the target color is the sum of the true color of a corresponding

pixel in the source image and a diffusive color error obtained from one or more previous

pixels in the converted output image (Applicant, page 1).

f.   Claim 9 is rejected with the rationale of the rejection of claim 1. Claim 9 is

merely claim 1 recited as a computer program.

g.   Claim 10 is rejected with the rationale of the rejection of claim 5. Claim 10 is

merely claim 5 recited as a computer program.

h.   Claim 12 is rejected per claim 9 with the rationale of the rejection of claim 3.

Claim 12 is merely claim 3 recited as a computer program.

i.   Claim 13 is rejected per claim 10 with the rationale of the rejection of claim 6.

Claim 13 is merely claim 6 recited as a computer program.

j.   Claim 15 is rejected per claim 10 with the rationale of the rejection of claim 8

above. Claim 15 is merely claim 8 recited as a computer program.

2.   Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar as

applied to claims 1 and 9 above and further in view of Foley et al., "Computer Graphics:

Principles and Practice" (Foley).

a.   Claim 2 is rejected per claim 1. Referring to claim 2, the method of Edgar as

applied to claim 1 above does not explicitly disclose the received dithering mask is an

alpha channel of the received electronic image. Foley discloses using the alpha channel in

image compositing (page 835, paragraph 3 – page 836, paragraph 3) and storing the alpha

channel information in the image (page 844, paragraph 1). At the time the invention was

made, it would have been obvious to a person of ordinary skill in the art to modify the

method of Edgar by making the dithering mask an alpha channel of the image as taught

by Foley. The suggestion/motivation for doing so would have been to reduce the number

to reduce the number of files.

b.   Claim 11 is rejected per claim 9 with the rationale of the rejection of claim 2.

Claim 11 is merely claim 2 recited as a computer program.

3.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edgar in light of

the prior art as applied to claim 1 above further in view of Pruitt et al., "Sams Teach Yourself

GIMP in 24 Hours" (Pruitt).

a.   Claim 4 is rejected per claim 1. The modified method of Edgar as applied to claim

1 meets the limitations recited in claim 4 except the output image is GIF or PNG8 image.

Pruitt discloses outputting an image as a GIF (page 1, paragraph 7). At the time the

invention was made, it would have been obvious to a person of ordinary skill in the art to

modify the method of Edgar to make the output image GIF or PNG8 as taught by Pruitt.

The suggestion/motivation for doing so would have been because GIF is a widely used

image format for the Web and the GIF format can be animated (Pruitt, page 1, paragraph

4).

Allowable Subject Matter

4.   Claims 7 and 14 are objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base claim

and any intervening claims.

Response to Arguments

5.   Applicant's arguments filed 21 April 2003 have been fully considered but they are not

persuasive. The Applicant contends that Edgar fails to disclose "receiving a dithering mask

corresponding to the source image, wherein the dithering mask contains dithering levels

specifying the degree to which colors in the corresponding regions of the source image can be

dithered to paint the output image" or "receiving a dithering level from a corresponding pixel in

a dithering mask associated with the source image, wherein the dithering level specifies on a per

pixel basis the amount of the pixel's color error to diffuse to neighboring pixels; and calculating

a color error from the target color, paint color, and dithering level" (Applicant's Amendment,

page 8, paragraph 3). As noted in the rejection above, Edgar discloses receiving a dithering

mask containing a plurality of dithering levels (i.e., 0%, 50%, 100% -- column 7, lines 1-10)

receiving a dithering level from a corresponding pixel in a dithering mask wherein the dithering

level specifies on a per pixel basis the amount of error to diffuse to neighboring pixels (column

7, lines 35-50) and calculating the error from the target color, paint color, and dithering level

(column 6, line 53 – column 7, line 10 and admitted prior art).

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Linzy McCartney** whose telephone number is **(703) 605-0745**.

The examiner can normally be reached on Mon-Friday (8:00AM-5: 30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Mark Zimmerman**, can be reached at **(703) 305-9798**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor
(Receptionist).
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the
Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

ltm
June 23, 2003

MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600